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(12) **United States Patent**
Liechty, II(10) Patent No.: **US 6,306,053 B1**(45) Date of Patent: **Oct. 23, 2001**(54) **RAZOR-EDGED CUTTING TIP**(76) Inventor: **Victor Jay Liechty, II, 1250 N. 1750 W., Provo, UT (US) 84604-2955**

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(21) Appl. No.: **09/082,636**(22) Filed: **May 21, 1998**(51) Int. Cl.⁷ **F42B 6/08**(52) U.S. Cl. **473/583; 473/584**(58) Field of Search **473/583, 584**(56) **References Cited****U.S. PATENT DOCUMENTS**

2,568,417	9/1951	Steinbacher	473/583
3,000,635	9/1961	Nieman	473/583
3,036,395	5/1962	Nelson	43/6
3,759,519	9/1973	Palma	473/578
4,166,619	9/1979	Bergmann et al.	473/581
4,210,330	7/1980	Kosbab	473/584
4,381,866	5/1983	Simo	473/584
4,452,460	6/1984	Adams	473/584
4,529,208	7/1985	Simo	473/584
4,558,868	12/1985	Musacchia	473/584
4,565,377	1/1986	Troncoso	473/584
4,576,589	3/1986	Kraus et al.	604/8
4,601,710	7/1986	Moll	604/164.12
4,615,529	10/1986	Vocal	473/583
4,616,835	10/1986	Trotter	473/583
4,643,435	2/1987	Musacchia	473/584
4,676,512	6/1987	Simo	473/584
4,742,637	5/1988	Musacchia	43/6
4,932,671	6/1990	Anderson, Jr.	473/583
4,940,246	7/1990	Stagg	473/583
4,973,060	11/1990	Herzing	473/583
5,044,640	9/1991	Del Monte et al.	473/584
5,046,744	9/1991	Eddy	473/583
5,057,082	10/1991	Burchette, Jr.	604/164.06
5,078,407	1/1992	Carlston et al.	473/583
5,082,292	1/1992	Puckett et al.	473/583
5,090,709	2/1992	Johnson	473/584

5,100,143	3/1992	Puckett	473/583
5,102,147	4/1992	Szeluga	473/584
5,112,063	5/1992	Puckett	473/583
5,137,282	8/1992	Segar et al.	473/583

(List continued on next page.)

OTHER PUBLICATIONS

Wasp Diamond—Point Chisel Tip—Wasp Archery Products Bowhunter Aug./Sep. 1990 p. 48.

Rocky Mnt. Gator—Barrie Archery—as per ABCC Ad Book 4th Edition Apr. 1995 p. R-10.

Dragontail—Bangtail Mfg.—as per ABCC Ad Book 4th Edition Apr. 1995 p. Misc 10.

Mohawk Broadhead—Mohawk Archery Products as per ABCC Ad Book 4th Edition Apr. 1995 p. M-8.

Ben Pearson Fishing Point—as per ABCC Ad Book 4th Edition Apr. 1995 p. B-22.

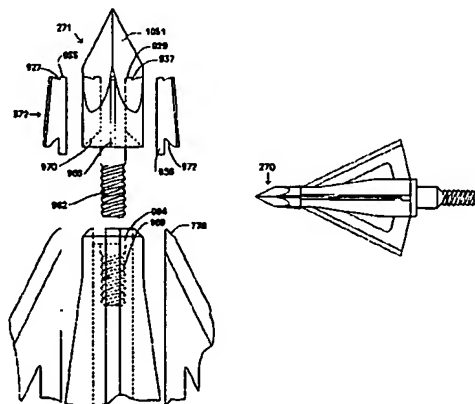
Little Shaver Broadhead—as per ABCC Ad Book 4th Edition Apr. 1995 p. L-2.

The Fang—Arrow Enterprise Inc. as per ABCC Ad Book 4th Edition Apr. 1995 p. F-2.

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(57) **ABSTRACT**

Arrowheads each having a cutting tip defined with a tip body having at least one slot for engageable mounting of a cutting tip blade therein. The tip blades provide a razor sharp cutting edge situated near a forward leading end of the corresponding tips by holding elements. Some such cutting tips have facets formed thereon. Some such arrowheads are blade-opening arrowheads, whereas other such arrowheads have substantially removably attachable fixed blades disposed therewith, in elongately configured slots upon corresponding arrowhead bodies. The razor sharp cutting edges of the tip blades in conjunction with the corresponding tip bodies and/or facets provide cutting tips of structural integrity so as to sufficiently crush/split heavy bone and push penetrated material easily from its cutting path, while concomitantly slicing soft tissue with the ease of a razors edge.

67 Claims, 23 Drawing Sheets

BRIEF DESCRIPTION OF DRAWINGS